

Cape Cod Community College AMTS

Practical Project Guide for AMT 269 Powerplant Curriculum, Subject Item 24-25

Part 147, Appendix D, Part 2, Subject G – Engine Fuel Systems

Item 24. **Repair engine fuel system components.** (Level 2)

Item 25. **Inspect, check, service, troubleshoot, and repair engine fuel systems.** (Level 3)

Project 1A & 1B & 1C & 1D & 1E

Purpose: To acquaint the student with the proper procedures of inspecting, checking, servicing, and repairing engine fuel systems and their components.

References:

- (1) 14 CFR, Federal Aviation Regulations for Aviation Maintenance Technicians (Current Edition), Aviation Maintenance Technician Handbook – Powerplant, Volume 1 (FAA-H-8083-32) Chapter 2
- (2) Piper Colt Flight and Parts Manuals
- (3) Lycoming Direct Drive Overhaul Manual
- (4) Piper Comanche 250 (PA-24) Service Manual
- (5) Piper Comanche 250 (PA-24) Parts Catalog
- (6) Lycoming O-540 Engine Service Manual
- (7) Cessna 402C Service Manual and Parts Manual
- (8) Continental TSIO-520 Engine Service Manual
- (9) AeroTrain AE-30-320 Operation Manual
- (10) AeroTrain AE-30-520 Operation Manual
- (11) O-320 Illustrated Parts Manual

Equipment and Tools Needed:

- (1) Piper Colt (PA 22)
- (2) Piper Comanche 250 (PA 24)
- (3) Cessna 402C
- (4) AeroTrain AE-30-320 O-320 Operational Training Aid
- (5) AeroTrain AE-30-520 TSIO-520 Operational Training Aid
- (6) AMT Roll-Around Toolbox
- (7) Computer workstation with internet access.

Supplies and Materials Needed:

- (1) None

Procedure:

Complete following procedure on the assigned project 1A or 1B or 1C or 1D or 1E

- (1) Remove the cowling and inspect the assigned engine fuel system and list all discrepancies noted.
- (2) Repair the discrepancies as authorized by the Instructor.
- (3) Turn off the fuel flow and remove, inspect, clean, and reinstall the engine fuel metering device's inlet strainer/filter.
- (4) Turn on the fuel flow, operate the engine fuel boost pump (if installed), and verify that there are no fuel leaks in the system.
- (5) Reinstall all cowling removed.
- (6) Complete maintenance record entries.

Project 1A Item 24. **Repair engine fuel system components.** (Level 2) and Item 25. **Inspect, check, service, troubleshoot, and repair engine fuel systems.** (Level 3)

- (1) 14 CFR, Federal Aviation Regulations for Aviation Maintenance Technicians (Current Edition), Aviation Maintenance Technician Handbook – Powerplant, Volume 1 (FAA-H-8083-32)
Chapter 2 Piper Colt (PA 22)
- (2) Piper Colt Flight and Parts Manuals
- (3) Lycoming Direct Drive Overhaul Manual

Project 1B Item 24. **Repair engine fuel system components.** (Level 2) and Item 25. **Inspect, check, service, troubleshoot, and repair engine fuel systems.** (Level 3)

- (1) 14 CFR, Federal Aviation Regulations for Aviation Maintenance Technicians (Current Edition), Aviation Maintenance Technician Handbook – Powerplant, Volume 1 (FAA-H-8083-32)
Chapter 2 Piper Comanche 250 (PA-24) Service Manual
- (2) Piper Comanche 250 (PA-24) Parts Catalog
- (3) Lycoming O-540 Engine Service Manual

Project 1C Item 24. **Repair engine fuel system components.** (Level 2) and Item 25. **Inspect, check, service, troubleshoot, and repair engine fuel systems.** (Level 3)

- (1) 14 CFR, Federal Aviation Regulations for Aviation Maintenance Technicians (Current Edition), Aviation Maintenance Technician Handbook – Powerplant, Volume 1 (FAA-H-8083-32)
Chapter 2 Cessna 402C Service Manual and Parts Manual
- (2) Continental TSIO-520 Engine Service Manual

Project 1D Item 24. **Repair engine fuel system components.** (Level 2) and Item 25. **Inspect, check, service, troubleshoot, and repair engine fuel systems.** (Level 3)

- (1) 14 CFR, Federal Aviation Regulations for Aviation Maintenance Technicians (Current Edition), Aviation Maintenance Technician Handbook – Powerplant, Volume 1 (FAA-H-8083-32) Chapter 2
- (2) AeroTrain AE-30-320 O-320 Operational Training Aid
- (3) AeroTrain AE-30-320 Operation Manual
- (4) O-320 Illustrated Parts Manual

Project 1E Item 24. **Repair engine fuel system components.** (Level 2) and Item 25. **Inspect, check, service, troubleshoot, and repair engine fuel systems.** (Level 3).

- (1) 14 CFR, Federal Aviation Regulations for Aviation Maintenance Technicians (Current Edition), Aviation Maintenance Technician Handbook – Powerplant, Volume 1 (FAA-H-8083-32) Chapter
- (2) TSIO-520 Test Stand (AeroTrain AE-30-520 Training Aid)
- (3) AeroTrain AE-30-520 Operations Manual
- (4) Continental TSIO-520 Engine Service Manual

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Item 25. Inspect, check, service, **troubleshoot**, and repair engine fuel systems. (Level 3)

Project 2

Purpose: To acquaint the student with the proper procedures of troubleshooting engine fuel systems.

References:

- (1) 14 CFR, Federal Aviation Regulations for Aviation Maintenance Technicians (Current Edition), Aviation Maintenance Technician Handbook – Powerplant, Volume 1 (FAA-H-8083-32) Chapter 2
- (2) AeroTrain AS-11 Fuel System Trainer Operation/Training Manual

Equipment and Tools Needed:

- (1) AeroTrain AS-11 Fuel System Trainer
- (2) AMT Roll-Around Toolbox
- (3) Computer workstation with internet access.
- (4) Multimeter

Supplies and Materials Needed:

- (1) None

Procedure:

Complete following procedure on the assigned project 2

- (1) Operate the Trainer as per the manufacturer’s Operation/Training Manual.
- (2) Troubleshoot the Instructor-induced problem.
- (3) Discuss with the Instructor how you found the problem and what the proper repair would be.
- (4) Complete maintenance record entries.

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